



(11) **EP 1 118 385 A1**

(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 158(3) EPC

(43) Date of publication:
25.07.2001 Bulletin 2001/30

(51) Int. Cl.: B01J 35/02, C09D 1/00,
C09D 5/00, B05D 5/00,
B05D 7/24

(21) Application number: 99933202.6

(22) Date of filing: 30.07.1999

(86) International application number:
PCT/JP99/04126

(87) International publication number:
WO 00/06300 (10.02.2000 Gazette 2000/06)

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 30.07.1998 JP 23012098
19.10.1998 JP 31684798
22.01.1999 JP 1486899
10.06.1999 JP 16438499

(71) Applicant: TOTO LTD.
Kitakyushu-shi, Fukuoka-ken 802-8601 (JP)

(72) Inventors:
• KOBAYASHI, Hideki
Kitakyushu-shi, Fukuoka 802-8601 (JP)

• SAEKI, Yoshimitsu
Kitakyushu-shi, Fukuoka 802-8601 (JP)
• TANAKA, Shinji
Kitakyushu-shi, Fukuoka 802-8601 (JP)
• NAKASHIMA, Yasushi
Kitakyushu-shi, Fukuoka 802-8601 (JP)
• MAYUMI, Yoshitaka
Kitakyushu-shi, Fukuoka 802-8601 (JP)

(74) Representative: Grünecker, Kinkeldey,
Stockmair & Schwanhäusser Anwaltssozietät
Maximilianstrasse 58
80538 München (DE)

(54) **METHOD FOR PRODUCING HIGH-PERFORMANCE MATERIAL HAVING PHOTOCATALYTIC FUNCTION AND DEVICE THEREFOR**

(57) Disclosed is a method and an apparatus are provided which can efficiently produce a functional material having a satisfactory level of photocatalytic activity. A photocatalyst coating composition comprising a photocatalytic metal oxide and/or a precursor of the photocatalytic metal oxide is coated on the surface of a substrate. The surface of the coated substrate is rapidly

heated to fix the photocatalytic metal oxide onto the surface of the substrate. This rapid heating can realize the production of a functional material having a satisfactory level of photocatalytic activity in an efficient manner. The apparatus, which can continuously carry out the rapid heating immediately after the production of the substrate, can produce the functional material having photocatalytic activity in an efficient manner.

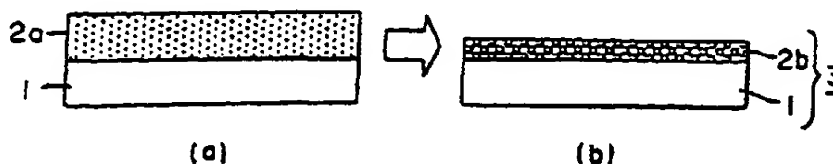


FIG. 1

EP 1 118 385 A1